WHAT IS CLAIMED IS:

1. A method of producing a high carbon steel sheet, comprising the steps of:

hot rolling a steel having chemical composition specified by JIS G 4051, JIS G 4401 or JIS G 4802,

coiling the hot rolled steel sheet at 520 to 600 °C,

descaling the coiled steel sheet,

annealing the descaled steel sheet at 640 to 690 °C for 20 hr or longer (primary annealing),

cold rolling the annealed steel sheet at a reduction rate of 50 % or more, and

annealing the cold rolled steel sheet at 620 to 680 °C (secondary annealing).

2. The method as set forth in claim 1, wherein the temperature T1 of the primary annealing and the temperature T2 of the secondary annealing satisfy the following formula (1),

$$1024 - 0.6 \times T1 \leqq T2 \leqq 1202 - 0.80 \times T1 \quad \ldots (1).$$

3. A method of producing a high carbon steel sheet, comprising the steps of:

continuously casting into slab a steel having chemical composition specified by JIS G 4051, JIS G 4401 or JIS G 4802,

rough rolling the slab to sheet bar without reheating the slab or after reheating the slab cooled to a certain temperature,

finish rolling the sheet bar after reheating the sheet bar to Ar3 transformation point or higher,

coiling the finish rolled steel sheet at 500 to 650 °C,

descaling the coiled steel sheet,

annealing the descaled steel sheet at a temperature T1 of 630 to 700 °C for 20 hr or longer (primary annealing),

cold rolling the annealed steel sheet at a reduction rate of 50 % or higher, and

annealing the cold rolled steel sheet at a temperature T2 of 620 to 680 °C (secondary annealing),

wherein the temperature T1 and the temperature T2 satisfy the following formula (2),

$$1010 - 0.59 \times T1 \leqq T2 \leqq 1210 - 0.80 \times T1 \quad \ldots (2).$$

4. A method of producing a high carbon steel sheet, comprising the steps of:

continuously casting into slab a steel having chemical composition specified by JIS G 4051, JIS G 4401 or JIS G 4802,

rough rolling the slab to sheet bar without reheating the slab or after reheating the slab cooled to a certain temperature,

finish rolling the sheet bar during reheating the rolled sheet bar to Ar3 transformation point or higher,

coiling the finish rolled steel sheet at 500 to 650 °C,

descaling the coiled steel sheet,

annealing the descaled steel sheet at a temperature T1 of 630 to 700 °C for 20 hr or longer (primary annealing),

cold rolling the annealed steel sheet at a reduction rate of 50 % or higher, and

annealing the cold rolled steel sheet at a temperature T2 of 620 to 680 °C (secondary annealing),

wherein the temperature T1 and the temperature T2 satisfy the above formula (2).